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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,840	03/03/2005	John G. Speer	34090.0279	1092
25928 7590 11/24/2008 CHRISTOPHER J. KULISH, ESQ HOLLAND & HART LLP P. O. BOX 8749 DENVER, CO 80201-8749			EXAMINER YANG, JIE	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 11/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,840	Applicant(s) SPEER ET AL.	
	Examiner JIE YANG	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/10/2008 has been entered.

Status of the Claims

Claim 1 has been amended; claims 1-8 are pending in application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, are rejected under 35 U.S.C. 102(b) as anticipated by Osamu Kawano et al (U.S 6,319,338, thereafter US'338).

US'338 is applied to the claims 1-8, for the same reason as stated in the previous office actions dated 7/20/2007 and 3/5/2008.

Regarding the newly amended limitation of quenching, followed said step of annealing, said steel alloy to transform a portion of said initial austenite into martensite and to leave remaining austenite that is less than said initial austenite in the instant claim 1, US'338 teaches quenching between 150°C to 450°C, partial of martensite are formed (Col.14, lines 33-44 of US'338), which reads on the limitation of transforming a portion of said initial austenite into martensite and to leave remaining austenite that is less than said initial austenite initial austenite as recited in the instant claim. Regarding the newly amended limitation of carbon partitioning to transfer carbon from said martensite to said remaining austenite sufficient to produce stable or metastable retained austenite and carbon-depleted martensite, US'338 teaches "carbon partitioning step", for example, "... to obtain the necessary amount of retained austenite; the holding time range was from 15sec to 20 min. The holding at 150°C to 500°C..." (Col.14, Line 45 to Col.15, Line 12; Claim 9 of US'338). US'338 teaches the similar annealing temperature (780-800°C for #16-40 of US'338), and the similar quenching temperature (200-400°C for #16-40 of US'338) to heat

Art Unit: 1793

treat the similar steel alloy as recited in the instant invention. Therefore, it would inherently lead to the similar microstructure (MPEP 2112 IV), which includes transferring carbon from said martensite to said remaining austenite to produce stable or metastable retained austenite and carbon-depleted martensite as recited in the instant claim. Regarding the term of "sufficient", US'338 teaches "carbon partitioning step", for example, "... to obtain the necessary amount of retained austenite; the holding time range was from 15sec to 20 min. The holding at 150°C to 500°C..." (Col.14, Line 45 to Col.15, Line 12; Claim 9 of US'338), US'338 reads on the limitation of "sufficient" to produce stable or metastable retained austenite and carbon-depleted martensite as recited in the instant claim.

Response to Arguments

Applicant's arguments filed on 09/10/2008 with respect to claims 1-8 have been fully considered but they are not persuasive.

Applicant's arguments are summarized as follows:

US'338 does not teach or suggest the carbon-depleted martensite because US'338 patent suggests that it would be undesirable to use martensite to provide carbon to stabilize austenite because doing so would reduce the martensite in the steel, thereby adversely affecting the high flow stress during deformation, lower yield rate, and

Art Unit: 1793

work hardening coefficient characteristics of the steel and US'338 patent indicates that bainite transformation is used to increase the carbon concentration in the austenite. In contrast, the claimed invention utilizes carbon partition to transfer carbon from martensite to austenite sufficient to produce stable or metastable retained austenite and carbon-depleted martensite.

Examiner's responses for the above argument are as follows:

Regarding the above argument, as pointed out in the previous office actions marked on 7/20/2007 and 3/5/2008, US'338 teaches cooling the heated steel at a cooling rate from 10°C/sec to 200°C/sec and holding at 150°C to 450°C. At lower than 150°C, virtually all of the remaining austenite remaining untransformed is transformed to martensite. By quenching between 150°C to 450°C, partial of martensite are formed (Col.14, lines 33-44 of US'338). Therefore, the martensite limitation in the instant claim would be anticipated by US'338. Because US'338 teaches "carbon partitioning step", for example, "... to obtain the necessary amount of retained austenite; the holding time range was from 15sec to 20 min. The holding at 150°C to 500°C..." (Col.14, Line 45 to Col.15, Line 12; Claim 9 of US'338), which is a similar carbon participation condition as recited in the instant invention (Page 8, last paragraph of the instant specification), the carbon from said martensite will inherently transfer to austensite and lead to produce stable or metastable retained austenite and carbon-depleted martensite. MPEP 2112 IV.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/Roy King/
Supervisory Patent Examiner, Art Unit 1793